

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte SUSHUMNA IRUVANTI,  
KEITH S. OLSEN,  
and  
KRISHNA G. SACHDEV

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Appeal No. 1999-2153  
Application No. 08/958,848

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ON BRIEF

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Before GARRIS, LIEBERMAN, and DELMENDO, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1, 3-16, 18, 19, 21 and 22 which are all of the claims remaining in the application.

The subject matter on appeal relates to a thermally conductive paste having enhanced thermal conductivity and paste properties comprising a non-aqueous dielectric liquid carrier, a

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solid thermally conductive filler, and a dispersant which is a polyester self-condensation reaction product of a hydroxy fatty acid or a mixture of hydroxy fatty acids, the reaction product having an acid no. of about 45-85. According to the appellants, the use of a polyester self-condensation reaction product having an acid number within the aforementioned range results in a paste which possesses the desirable combined properties of high thermal conductivity and relatively low paste viscosity. The appealed subject matter also relates to a method of using such a paste and to a method of making such a paste. This subject matter is adequately represented by independent claim 1 which reads as follows:

1. A thermally conductive paste having enhanced thermal conductivity and paste properties comprising:

a non-aqueous dielectric liquid carrier;

a solid thermally conductive filler in an amount of about 50-85% by volume of the paste dispersed in the liquid carrier; and

a dispersant which is a polyester self-condensation reaction product of a hydroxy fatty acid or mixture of hydroxy fatty acids the reaction product having an Acid No. of about 45-85 in an amount of about 1 to 10 weight % of the paste.

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The references relied upon by the examiner as evidence of obviousness are:

Stansfield et al. (Stansfield)	3,778,287	Dec. 11, 1973
Iruvanti et al. (Iruvanti)	5,098,609	Mar. 24, 1992
Anderson, Jr. et al. (Anderson)	5,213,704	May 25, 1993

All of the claims on appeal stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Iruvanti in combination with Stansfield and further in view of Anderson.

We refer to the brief and to the answer for a complete exposition of the opposing viewpoints expressed by the appellants and by the examiner concerning the above noted rejection.

#### OPINION

This rejection cannot be sustained for the reasons expressed below.

On page 4 of the answer, the examiner expresses his obviousness position as follows:

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize a polyester of self-condensed 12 HSA having the instant an [sic] acid No. of Stansfield in Iruvanti since Iruvanti teaches employing polyesters of Stansfield and a self-condensed 12 hydroxy stearic acid (12 HSA) and since choosing an acid No. from the disclosed range is considered a *prima facie* [sic], and Anderson, Jr. teaches mineral oils of Iruvanti as dielectric liquid carriers.

As correctly argued by the appellants, however, the applied references including Iruvanti and Stansfield contain no teaching

or suggestion of formulating a thermally conductive paste with a polyester self-condensation reaction product having an acid no. of any kind much less an acid no. of about 45-85 as here claimed. We understand the examiner's point that Iruvanti teaches formulating his thermally conductive paste with a stabilizing dispersant which constitutes a polyester as disclosed in Stansfield and that Stansfield discloses polyesters generally including "preferred polyesters having acid values in the range of 10 to 100 mgms. KOH/gm. and especially in the range of 20 to 50 mgms. KOH/gm." (column 2, lines 52-55). Nevertheless, we do not share the examiner's apparent belief that these disclosures of Iruvanti and Stansfield would have suggested formulating Iruvanti's thermally conductive paste with a polyester self-condensation reaction product having an acid no. value of about 45-85 as claimed by the appellants.

This is because, as again properly argued by the appellants, the polyesters of Stansfield are used to prepare dispersions of inorganic pigments in the manufacture of inks and paints (e.g., see the abstract). Thus, while patentee teaches formulating his dispersions with preferred polyesters having acid no. values which are inside as well as outside the here claimed range, there is simply no suggestion in either Stansfield or Iruvanti of

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formulating Iruvanti's thermally conductive paste with polyesters having any particular acid no. value much less the here claimed polyester self-condensation reaction product having an acid no. of about 45-85.

For all we know based on the record before us, an artisan with ordinary skill would have formulated Iruvanti's paste using the polyesters of Stansfield without any regard whatsoever for the acid no. value of the polyester. Certainly, it is clear that these references contain no teaching or suggestion regarding acid no. values of polyesters used in formulating a thermally conductive paste. Furthermore, we discern no convincing rationale in the answer as to why the artisan would have formulated Iruvanti's paste with the particular polyesters having the particular acid no. values required by the appealed claims.

Under these circumstances, it is our determination that the examiner has failed to carry his initial burden of establishing a prima facie case of obviousness within the meaning of 35 U.S.C. § 103(a). In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 787-88 (Fed. Cir. 1984). It follows that we cannot

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sustain the examiner's Section 103 rejection of all appealed claims as being unpatentable over Iruvanti in combination with Stansfield and further in view of Anderson.

The decision of the examiner is reversed.

REVERSED

BRADLEY R. GARRIS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
PAUL LIEBERMAN	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
	)	
ROMULO H. DELMENDO	)	
Administrative Patent Judge	)	

BRG:hh

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